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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/379,729	08/24/1999	CAMERON BOLITHO BROWNE	169.1416	1640
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EXAMINER

GOOD JOHNSON, MOTILEWA

ART UNIT

PAPER NUMBER

2672

DATE MAILED: 06/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

HG

## Office Action Summary

Application No.

09/379,729

Applicant(s)

BROWNE, CAMERON BOLITHO

Examiner

Motilewa A. Good-Johnson

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,8,9,11-14,17-23,25,26,28-31,34-40,42,43,45-48 and 51-57 is/are rejected.
- 7) ☒ Claim(s) 7,10,15,16,24,27,32,33,41,44,49 and 50 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 01 April 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This office action is responsive to the following communications: application, filed on 08/24/1999; IDS, paper #4, filed on 01/18/2000; Priority, filed on 11/12/1999; Election, filed on 07/30/2001; Amendment A, filed on 04/01/2002.
2. Claims 1-57 are pending in this application. Claims 1, 18, 34 and 52-57 are independent claims. Claims 1-57 have been amended.
3. The title of the application is "Method and Apparatus for Transforming a set of Closed Curves" (as originally filed).

### ***Drawings***

4. The corrected or substitute drawings were received on 04/01/2002. These drawings are accepted.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily

published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 1-6, 8-9, 11-13, 18-23, 25-26, 28-30, 35-40, 42-43 and 45-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Stevens et al., U.S. Patent Number 5,701,404.

As per independent claim 1, Stevens discloses providing a set of continuous second curves having no self-crossover points for projection on a surface having first curves (FIGS. 3 & 5 '206'), determining intersection points of the first curve with the second curves (FIG. 16), determining a set of crossover points within the set of intersection points (col. 3, ll. 35 et seq.), and selecting curve intervals in accordance with a predetermined rule to form closed loops that form the transformed set of closed curves (col. 2-3, ll. 50 et seq.). Stevens further discloses in col. 13, lines 24 et seq., a bounding box for each curve on the surface.

As per dependent claims 2, 19 and 36, Stevens discloses ordering the crossover points in a predetermined order (col. 8, ll. 46 et seq.), marking one of the points that is highest in the order and that has not been previously marked (col. 10, ll. 44 et seq.), determining if a last marked point is a first point in a closed loop (col. 12, ll. 7 et seq.), if so, selecting one curve interval starting at the first point and terminating at an unmarked point (col. 10, ll. 8 et seq.) and marking the terminating point of the curve interval (col. 9, ll. 15 et seq.; col. 10, ll. 51 et seq.), or if not selecting another curve interval starting at the previous terminating point and terminating at an unmarked point (col. 10, ll. 7 et

seq.), marking the current terminating point (col. 9, ll. 15 et seq.), and repeatedly performing either of the applicable steps until the closed loop is formed (col. 10, ll. 43 et seq.).

As per dependent claims 3, 20 and 37, Stevens discloses selecting another curve interval from the set of first curves, the curve interval starting at a first point and continuing in a first direction and terminating at the next adjacent unmarked crossover point (FIG. 13).

As per dependent claims 4, 21 and 38, Stevens discloses selecting a curve interval from the set of first or second curves, the selected curve is the first curve interval located in a second direction from the previously selected curve interval and the selected curve interval continues in a third direction and terminates at the next adjacent unmarked point (FIG. 15B).

As per dependent claims 5, 22 and 39, Stevens discloses ordering the crossover points according to their position along the set of first curves in a fourth direction (FIG. 10A).

As per dependent claims 6, 23 and 40, Stevens discloses the first and fourth direction are in the forward direction (FIG. 10), the third direction is either positive or negative (col. 9, ll. 41 et seq.) and the second direction is in the backward direction (FIG. 15B).

As per dependent claims 8, 25 and 42, Stevens discloses the surface is 2-dimensional (FIG. 3A '110').

As per dependent claims 9, 25 and 43, Stevens discloses the surface is 3-dimensional (FIG. 5).

As per dependent claims 11, 28 and 45, Stevens discloses generating the pattern (col. 11, ll. 3 et seq.).

As per dependent claims 12, 29 and 46, Stevens discloses accessing the pattern from storage (col. 10, ll. 3 et seq.).

As per dependent claims 13, 30 and 47, Stevens disclose interactively generating trim regions and editing changes to the 3D curve defining the trim region in response to user input (col. 2, ll. 20-28).

As per independent claim 18, Stevens discloses an apparatus (FIG. 2) for performing the method of claim 1. Therefore the rationale as applied to claim 1 is included herein.

As per independent claim 35, Stevens discloses a program (FIG. 2; col. 5, ll. 39 et seq.) for performing the method of claim 1. Therefore the rationale as applied to claim 1 is included herein.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 14, 17, 31, 34, 48, 51-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stevens et al., U.S. 5,701,404 and further in view of Ellson et al., U.S. Patent 5,805,783.

As per dependent claims 14, 31 and 48, Ellson discloses inputting parameters (col. 6, ll. 18), which Stevens fails to disclose. Stevens discloses identifying segment parameters (FIGS. 14-15). It would have been obvious to combine the disclosure of Stevens with that of Ellson, to allow input at each segment parameter.

As per dependent claims 17, 34 and 51, Ellson discloses the first curves constitute a character glyph of a font (FIGS. 3-4), which Stevens fails to disclose. Stevens discloses projecting a 3D curve through a NURBS surface and interactively changing a NURBS surface. It would have been obvious to combine the Ellson's disclosure with that of Stevens to interactively change character glyphs of a font.

As per independent claim 52, Stevens discloses providing a set of continuous second curves having no self-crossover points for projection on a surface having first curves (FIGS. 3 & 6 '206'), determining intersection points (FIG. 16), determining a set of crossover points from the set of intersection points (col. 3, ll. 35 et seq.), and selecting curve intervals in accordance with a predetermined rule to form closed loops that form the transformed set of closed curves (col. 2-3, ll. 50 et seq.), forming a set of closed third curves from selected intervals of the first and second curves that form a modified object (col. 12, ll. 7 et seq.). Stevens fails to disclose the object being a character, however it have been obvious to one of skill in the art to modify a character

by forming closed loops because Ellson discloses extruding font characters and applying a third dimension to modify and personalize a font (col. 5, ll. 5-45) and to further combine the disclosure of Ellson with Stevens because Stevens teaches interactively changing a NURBS surface.

As per independent claim 53, Stevens discloses an apparatus (FIG. 2) for performing the method of claim 52. Therefore the rationale as applied to claim 52 is included herein.

As per independent claim 54, Stevens discloses a program (FIG. 2; col. 5, ll. 39 et seq.) for performing the method of claim 52. Therefore the rationale as applied to claim 52 is included herein.

As per independent claim 55, Stevens discloses selecting unmarked adjacent crossover points to form a closed loop (col. 12, ll. 7 et seq.) and marking the selected adjacent crossover points (FIG. 10 A). Stevens fails to disclose forming closed loops to form a modified character. The rationale as applied to independent claim 52 is included herein.

As per independent claim 56, Stevens discloses an apparatus (FIG. 2) for performing the method of claim 55. Therefore the rationale as applied to claim 55 is included herein.

As per independent claim 57, Stevens discloses a program (FIG. 2; col. 5, ll. 39 et seq.) for performing the method of claim 55. Therefore the rationale as applied to claim 55 is included herein.

***Response to Arguments***

9. Applicant's arguments filed 04/01/2002 have been fully considered but they are not persuasive.

Applicant argues that Stevens fails to disclose intersections on the NURBS surface with the curve itself. Stevens discloses in col. 8, lines 10 et seq., mapping of intersections of the rays projected from projected curve with NURBS surface. Applicant argues that Stevens fails to disclose determining a set of intersection points, determining a set of crossover points from intersection points and selecting a plurality of curve intervals. Stevens discloses in col. 8, lines 37 et seq., that the method determines the intersections that are connected and further discloses intersections ordered along a ray by their parametric value. Stevens discloses in col. 13, lines 14 et seq., curve intersections having overlaps between curves and resolving any overlaps, it is inherent that said overlap in curve intersections would constitute crossover points in the trim region. Applicant argues that Stevens fails to disclose selecting a plurality of curve intervals from the set of one or more closed first curves. Stevens disclose in col. 13, lines 24 et seq., creating a bounding box for segments of curves and the detection of curves intersection is accomplished by checking the bounding boxes for curve segments that overlap and determining the actual intersection data for the curves.

Applicant further argues that Ellson fails to disclose intersection points with continuous curves. Ellson discloses in col. 5, lines 39 et seq., each character has a triangular cross-section made of spheres and further discloses creating three-

dimensional or depth image characters using graphic three-dimensional object techniques. It would have been obvious to one of ordinary skill in the art that the character is called a sphere and has circular cross-section and made of spheres that that would be intersection points, curve intervals and crossover points as disclosed in Stevens.

***Allowable Subject Matter***

10. Claims 7, 10, 15-16, 24, 27, 32-33, 41, 44 and 49-50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Motilewa A. Good-Johnson whose telephone number is (703) 305-3939. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (703) 305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Motilewa A. Good-Johnson  
Examiner  
Art Unit 2672

mgj  
June 14, 2002



**MICHAEL RAZAVI**  
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